

532, 921

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
13 May 2004 (13.05.2004)

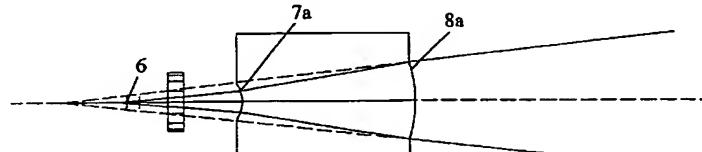
PCT

(10) International Publication Number
WO 2004/040338 A1

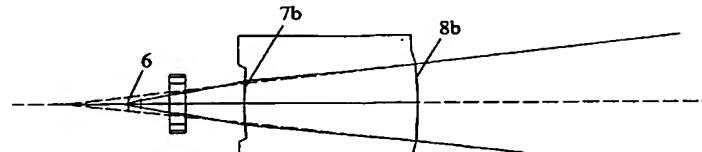
- (51) International Patent Classification⁷: G02B 3/02, 27/09, G11B 7/125
- (21) International Application Number: PCT/IB2003/004887
- (22) International Filing Date: 3 November 2003 (03.11.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 2002-320115 1 November 2002 (01.11.2002) JP
- (71) Applicants (*for all designated States except US*): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL). NALUX CO., LTD [JP/JP]; Yamazaki 2-1-7, Shimamoto-Cho, Mishima-Gun, Osaka 618-0001 (JP).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): HATADE, Kouei
- [JP/JP]; c/o Yamazaki 2-1-7, Shimamoto-Cho, Mishima-Gun, Osaka 618-0001 (JP). JUTTE, Petrus, T. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). VAN DEN EERENBEEMD, Jacobus, M., A. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (74) Agent: VISSER, Derk; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: BEAM-SHAPING OPTICAL ELEMENT AND METHOD AND PROGRAM FOR DESIGNING THE SAME



Y-Z plane



X-Z plane

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(57) Abstract: A beam-shaping optical element employing an aspherical profile is presented to minimize aberration. A beam-shaping optical element according to the present invention includes an entrance surface and an exit surface, both having a non-circular cross-section in any plane comprising the optical axis. A beam-shaping optical element according to one embodiment of the present invention, has the optical axis coinciding with the Z-axis of a three-axis rectangular XYZ system of coordinates, and the entrance surface and/or the exit surface represented by a mathematical equation comprising a term representing a non-rotationally symmetric aspherical profile, at least one correction term comprising a function of variable X alone and at least one correction term comprising a function of variable Y alone.